

Appln No. 10/694,118
Amdt date November 10, 2006
Reply to Office action of August 10, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please amend claim 1.

1. (Currently Amended) A method for ablating tissue in or around the heart comprising:

introducing into the heart ~~[[the]]~~ a distal end of a catheter comprising a catheter body and, wherein the catheter includes a needle electrode assembly at ~~[[its]]~~ the distal end of the catheter body, the needle electrode assembly comprising a proximal tubing and distal tubing, wherein the proximal tubing is more flexible than the distal tubing, the distal tubing of the needle electrode assembly being in a retracted position within the distal end of the catheter;

introducing a distal end of the distal tubing of the needle electrode assembly into the tissue, including moving the distal tubing of the needle electrode assembly from its retracted position within the distal end of the catheter to an extended position outside the distal end of the catheter;

infusing into the tissue an electrically-conductive fluid through the distal tubing of the needle electrode assembly while in the extended position; and

ablating the tissue after and/or during introduction of the fluid into the tissue, whereby the fluid conducts ablation energy within the tissue to create a larger lesion than would be created without the introduction of the fluid.

2. (Previously Presented) The method according to claim 1, wherein the tissue is ablated using the distal tubing of the needle electrode assembly.

Appln No. 10/694,118
Amdt date November 10, 2006
Reply to Office action of August 10, 2006

3. (Previously Presented) The method according to claim 2, wherein radio frequency energy is delivered to the distal tubing of the needle electrode assembly for the ablation.

4. (Original) The method according to claim 1, wherein the tissue is ablated using a tip electrode on the distal end of the catheter.

5. (Previously Presented) The method according to claim 1, wherein a portion of the distal tubing of the needle electrode assembly that is introduced into the tissue has an insulating coating.

6. (Previously Presented) The method according to claim 5, wherein the insulating coating is over a portion of the distal tubing of the needle electrode assembly that is in contact with the endocardial surface of the tissue being ablated.

7. (Previously Presented) The method according to claim 1, wherein the distal tubing of the needle electrode assembly comprises nitinol.

8. (Previously Presented) The method according to claim 1, wherein the distal tubing of the needle electrode assembly is introduced to a depth ranging from about 2 to about 30 mm.

9. (Previously Presented) The method according to claim 1, wherein the distal tubing of the needle electrode assembly is introduced to a depth ranging from about 4 to about 10 mm.

Appln No. 10/694,118
Amdt date November 10, 2006
Reply to Office action of August 10, 2006

10. (Previously Presented) The method according to claim 1, wherein the distal tubing of the needle electrode assembly is introduced to a depth ranging from about 3 to about 20 mm.

11. (Previously Presented) The method according to claim 1, wherein the distal tubing of the needle electrode assembly is introduced to a depth ranging from about 5 to about 7 mm.

12. (Previously Presented) The method according to claim 1, wherein fluid is infused through the distal tubing of the needle electrode assembly during ablation.

13. (Previously Presented) The method according to claim 1, wherein fluid is infused through the distal tubing of the needle electrode assembly before ablation.

14. (Previously Presented) The method according to claim 1, wherein fluid is infused through the distal tubing of the needle electrode assembly before and during ablation.

15. (Previously Presented) The method according to claim 1, wherein the fluid infused through the distal tubing of the needle electrode assembly comprises saline having a salt content ranging from about 0.3 to about 4 wt%.

16. (Previously Presented) The method according to claim 1, wherein the fluid infused through the distal tubing of the needle electrode assembly comprises saline having a salt content ranging from about 0.5 to about 3 wt%.

17. (Previously Presented) The method according to claim 1, wherein the fluid infused through the distal tubing of the needle electrode assembly comprises saline having a salt content ranging from about 0.9 to about 2.5 wt%.

18. (Previously Presented) The method according to claim 1, wherein the fluid infused through the distal tubing of the needle electrode assembly comprises saline having a salt content ranging from about 1.5 to about 2 wt%.

19. (Previously Presented) The method according to claim 1, wherein the fluid infused through the distal tubing of the needle electrode assembly comprises a radiographic contrast agent.

20. (Previously Presented) The method according to claim 19, wherein the amount of contrast agent present in the fluid ranges from about 5 to about 50%.

21. (Previously Presented) The method according to claim 19, wherein the amount of contrast agent present in the fluid ranges from about 10 to about 30%.

22. (Previously Presented) The method according to claim 19, wherein the amount of contrast agent present in the fluid ranges from about 10 to about 20%.

23. (Previously Presented) The method according to claim 1, wherein the fluid is infused through the distal tubing of the needle electrode assembly at a rate ranging from about 0.3 to about 5 ml/min.

24. (Previously Presented) The method according to claim 1, wherein the fluid is infused through the distal tubing of the needle electrode assembly at a rate ranging from about 0.3 to about 3 ml/min.

Appln No. 10/694,118
Amdt date November 10, 2006
Reply to Office action of August 10, 2006

25. (Previously Presented) The method according to claim 1, wherein the fluid is infused through the distal tubing of the needle electrode assembly at a rate ranging from about 0.8 to about 2.5 ml/min.

26. (Previously Presented) The method according to claim 1, wherein the fluid is infused through the distal tubing of the needle electrode assembly at a rate ranging from about 1 to about 2 ml/min.

27. (Previously Presented) The method according to claim 3, wherein radiofrequency energy is introduced to the distal tubing of the needle electrode assembly at a power of up to about 70 watts.

28. (Previously Presented) The method according to claim 3, wherein radiofrequency energy is introduced to the distal tubing of the needle electrode assembly at a power ranging from about 20 to about 50 watts.

29. (Previously Presented) The method according to claim 3, wherein radiofrequency energy is introduced to the distal tubing of the needle electrode assembly at a power ranging from about 30 to about 40 watts.

30. (Previously Presented) The method according to claim 3, wherein radiofrequency energy is introduced to the distal tubing of the needle electrode assembly for at least about 15 seconds.

31. (Previously Presented) The method according to claim 3, wherein radiofrequency energy is introduced to the distal tubing of the needle electrode assembly for at least about 30 seconds.

Appln No. 10/694,118
Amdt date November 10, 2006
Reply to Office action of August 10, 2006

32. (Previously Presented) The method according to claim 3, wherein radiofrequency energy is introduced to the distal tubing of the needle electrode assembly for at least about 60 seconds.

33. (Previously Presented) The method according to claim 2, further comprising burning a surface lesion with a tip electrode on the catheter, wherein the surface lesion is burned at the endocardial surface of the tissue ablated with the distal tubing of the needle electrode assembly.

34. (Previously Presented) The method according to claim 1, further comprising taking an impedance measurement using the distal tubing of the needle electrode assembly before, during and/or after introduction of the distal end of the distal tubing of the needle electrode assembly into the tissue.

35. (Previously Presented) The method according to claim 34, further comprising adjusting the flow rate of the fluid infused through the distal tubing of the needle electrode assembly, an amount of power delivered to the distal tubing of the needle electrode assembly, and/or the time over which the fluid is infused and/or the power delivered in response to the impedance measurement.

36. (Previously Presented) The method according to claim 1, further comprising measuring the temperature of the distal tubing of the needle electrode assembly during ablation.

37. (Previously Presented) The method according to claim 36, further comprising adjusting the flow rate of the fluid infused through the distal tubing of the needle electrode assembly, an amount of power delivered to the distal tubing of the needle electrode

Appln No. 10/694,118
Amdt date November 10, 2006
Reply to Office action of August 10, 2006

assembly, and/or the time over which the fluid is infused and/or the power delivered in response to the temperature measurement.

38. (Previously Presented) The method according to claim 37, wherein the distal tubing of the needle electrode assembly is maintained at a temperature ranging from about 35 to about 90°C.

39. (Previously Presented) The method according to claim 37, wherein the distal tubing of the needle electrode assembly is maintained at a temperature ranging from about 45 to about 80°C.

40. (Previously Presented) The method according to claim 37, wherein the distal tubing of the needle electrode assembly is maintained at a temperature ranging from about 55 to about 70°C.

41. (Previously Presented) The method according to claim 1, further comprising measuring electrical activity using the distal tubing of the needle electrode assembly before and/or after ablation.

42. (Previously Presented) The method according to claim 1, further comprising pacing using the distal tubing of the needle electrode assembly before and/or after ablation.

43. (Canceled).